

sollicitans, as has been indicated, is often extremely abundant at the peak of an epizootic of the eastern strain and largely covers the area where that type is prevalent. The disease has been less prevalent in the area where the southern salt-marsh mosquito (*A. taeniorhynchus*) is abundant, and *A. sollicitans* is usually present along with that species. *A. aegypti* might play an important part in the transmission of the malady in the South, but this mosquito does not occur where the disease has been most prevalent. Since only one positive case of transmission of the eastern virus by this species occurred out of many attempts, it may be assumed that *Aedes aegypti* is not likely to be of importance as a vector, except in the South where the western virus is present, notably in Texas and Oklahoma. The reported lower incidence of the disease among stabled horses does not fit in with the building-inhabiting tendencies of this mosquito.

There is obviously much to be learned about this dangerous malady and the relation of insects to its transmission. However, while this information is being sought it seems logical to take action against mosquitoes and as far as practical to protect man and horses from mosquitoes and other biting insects, especially when the disease is present in the region.

ENTOMOLOGY.—*Nomenclatorial notes on Corrodentia, with descriptions of two new species of Archipsocus.*¹ ASHLEY BUELL GURNEY, U. S. Bureau of Entomology and Plant Quarantine. (Communicated by C. F. W. MUESEBECK.)

For the past several years Dr. T. E. Snyder, of the Division of Forest Insect Investigations, Bureau of Entomology and Plant Quarantine, United States Department of Agriculture, has noticed unsightly psocid webs on the trunks of trees at New Orleans, La. The psocid responsible for the webs belongs to a genus hitherto known, among living species, only in tropical regions, and probably it is an established adventive in this country. As the species does not seem to agree with the description of any previously known species, it is here described as new. A second new species of *Archipsocus*, collected in Panama by James Zetek, is also described.

The opportunity is taken to present various notes on the nomenclature of Corrodentia. While certain of these matters may remain open to debate until definitely settled by the International Commission on Zoological Nomenclature, it seems worth while to place the facts on record.

¹ Received May 28, 1939.

Genus *Archipsocus* Hagen

Archipsocus Hagen, Stettin. Ent. Zeit. 43: 222-225, pl. 1, fig. x, 1-10. 1882.
(Genotype, *A. puber* Hagen, by monotypy.)

The genus *Archipsocus* was based upon a single fossil species, *puber*, from East Prussian amber. At the time of the original description only long-winged specimens were known. Enderlein (1911a) has since recorded a short-winged female of *puber* and has redescribed the genus (1903a, 1911a). Among the important generic characters are the following: Head subquadrate in dorsal view; compound eyes with many facets; antennae 13-segmented; prothorax distinct and free; wings rudimentary or as long as body, bearing setae and fine pubescence, venation of type illustrated by *nomas* (Figs. 4-6); tarsi 2-segmented; claws 2 in number, each with a ventral appendage. The excellent preservation obtainable in amber allows the close comparison of the structural details of the fossil genotype and the recent species. Details of the antennae and tarsi of *puber* illustrated in 1882 are remarkably like those of living species.

Temporarily, at least, the writer follows Banks (1929) in placing *Archipsocus* in the family Empheriidae (not Empheridae), but the latter's classification does not agree with those of Karny (1930) and Pearman (1936a), and a future change is anticipated.

The following recent species of *Archipsocus* have been described: *A. recens* Enderlein 1903a (Ceylon to Formosa); *A. brasilianus* Enderlein, 1906 (Brazil); *A. textor* Enderlein, 1911b (Africa); *A. neens* Enderlein, 1914 (West Africa); *A. fernandi* Pearman, 1934 (Ceylon); *A. biguttatus* Pearman, 1936b (Ceylon).

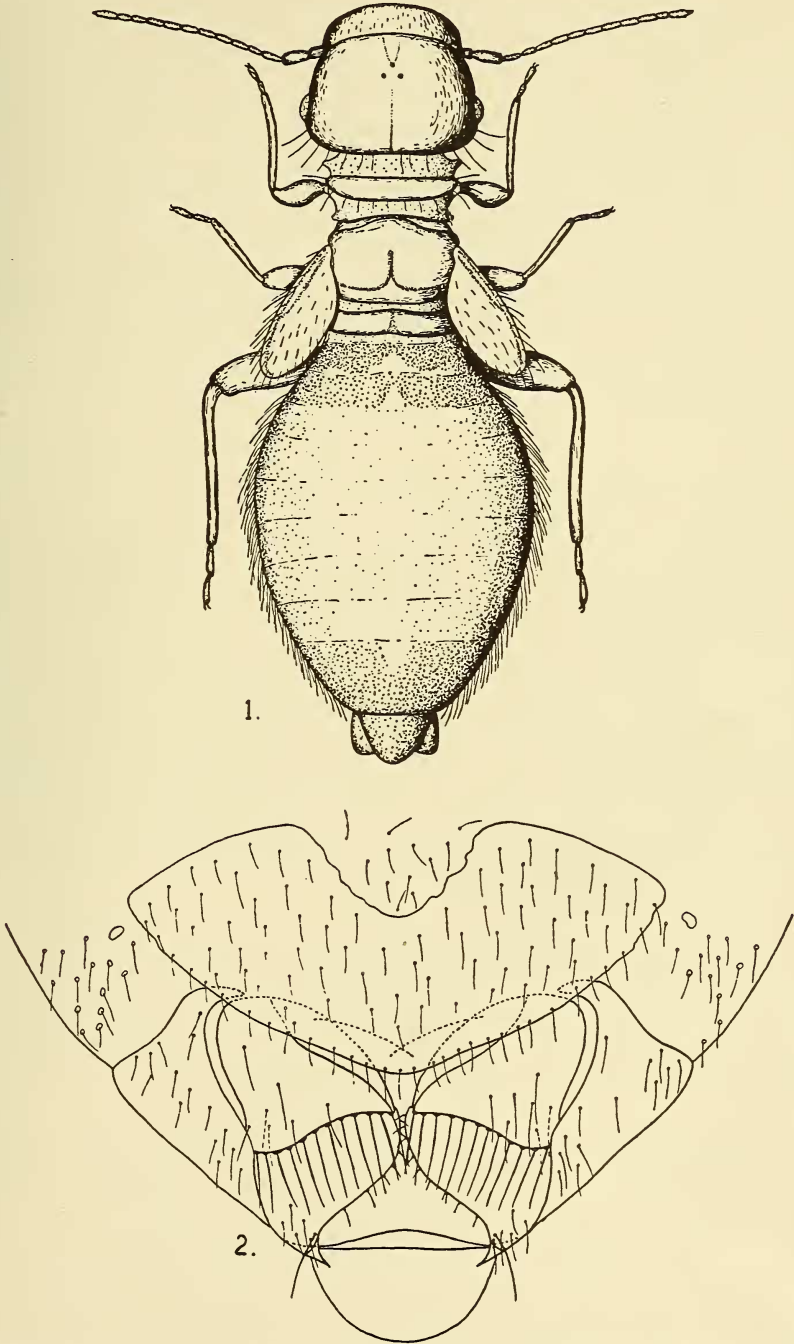
Archipsocus nomas,² n. sp.

Figs. 1-14

Short-winged female.—General form (Fig. 1) typical of genus. Head with coronal suture and frontal sutures feebly indicated. Caudolateral angles of head with long curved setae. Compound eyes each with more than 20 facets. Median ocellus slightly smaller than lateral ocelli. Apical segment of maxillary palpus thrice as long as wide, twice as long as penultimate segment. Lacinia ("pick") (Fig. 8) curved at base, flattened and expanded in apical third, apex forked. Length of antennal segments 1-13 (Fig. 3) in the following ratio: 1:2:1.6:0.8:1:1:1:1:1:0.9:0.9:0.8:1.5. Laterocervical sclerite (Fig. 14) with articulatory projections along margin. Pronotum transverse, lateral margins rounded; each caudolateral angle bearing several curved setae. Front wing (Fig. 6) extending beyond tergum 1; venation much reduced. Hind wing reduced to a tiny lobe about as long as first tarsal segment. Legs (Figs. 10-12) as illustrated. Tibiae clothed with short setae, those at apex (Fig. 9) stout and spurlike. Each claw with a curved ventral appendage.

Abdomen clothed with fine setae, unsclerotized except terga 1-2 and genital segments. Genitalia as shown in Fig. 2 in ventral view. Sclerotized area of subgenital plate emarginate at base. Anterolateral lobes of tergum 9 strongly sclerotized and curving hooklike about bases of gonapophyses.

² From the Latin word meaning a nomad, in allusion to the fact that the present species is probably introduced from its original home.



Figs. 1, 2.—*Archipsocus nomas*, new species: 1, Short-winged female, general view; 2, same, apex of abdomen, ventral view.

Gonapophysis (Fig. 7) with middle third unsclerotized and in distinct contrast to well-sclerotized remainder, a heavy curved bristle borne near medial margin, setae borne on disk and posterior margin as illustrated. Posterior margins of paraprocts broadly rounded ventrally, dorsal margin less broadly, so that an acute apex of the latter appears when seen in ventral view. Supraanal plate broadly rounded, unspecialized.

Coloration: General color dark brown; compound eyes and ocellar triangle black; palpi, antennae, tibiae, and tarsi pale. Wing transparent, gray.

Measurements: Length of body 1.6 mm, of antenna 0.51 mm, of wing 0.42 mm, of hind tibia 0.42 mm; width of head 0.45 mm.

Long-winged female.—Differing from short-winged female only in structure of mesothorax and metathorax and in the presence of fully developed wings. Lateral tergal lobes of mesonotum and metanotum well developed to accommodate muscles of flight. Wings with venation as illustrated (Figs. 4, 5). Front wing entirely covered by setae; setae of hind wing not extending basad of apical half except along posterior margin.

Coloration: Dorsal sutures of thorax conspicuously dark, otherwise agreeing with short-winged female.

Measurements: Length of front wing 1.3 mm, of hind wing 1 mm; other measurements as in short-winged female.

Short-winged male.—Differing from female mainly in smaller size, vestigial ocelli, and genitalia. Ocelli not distinct, present only as tiny spots in same location as those of female. Front wing scarcely reaching posterior margin of tergum 1. Tergum 9 irregularly and feebly emarginate along anterior margin; lateral extremities broadly joined to lateral margins of posterior sclerite of subgenital plate (Fig. 13). Anterior sclerite of subgenital plate transverse, broadly emarginate anteriorly, deeply emarginate at lateral extremities. Phallic armament dorsad of subgenital plate visible through the latter as illustrated. Anterior ends of lateral arms flattened and joined; lateral arms entirely separated from posterior portion, which is V-shaped and pointed at the apex. Paraprocts well sclerotized dorsally only, so that when seen in ventral view (Fig. 13) the concave surface of the supraanal plate and the inner surface of tergum 9 are visible through the transparent ventral portion of the paraprocts.

Coloration: As in female.

Measurements: Length of body 1.4 mm, of antenna 0.43 mm, of wing 0.20 mm, of hind tibia 0.36 mm; width of head 0.37 mm.

Nymphs.—Ten immature specimens, representing both long-winged and short-winged forms, are at hand. The antennae are 13-segmented and tarsi 2-segmented in the specimens, which range from 0.7 to 1.5 mm in length. The smallest individuals have no wing pads. The coloration averages lighter than in the adults. The compound eyes are black.

Variation.—A few short-winged females intergrade in wing length with the long-winged form. The wings of 18 of these intergrading specimens are longer than normal for the short-winged condition, ranging from slightly longer than normal to 0.75 mm in length. Body size is remarkably constant in short-winged females; a few varying specimens range from 1.54 to 1.75 mm in body length. Throughout the series the female genitalia are constant in all important respects. The arrangement of setae on the gonapophyses varies slightly, but the total number of setae is seldom greater than illustrated (Fig. 2) and a condition corresponding to the description of *brasilianus* has not been found. Long-winged females range in body length from 1.6 to 1.9 mm and in wing length from 1.1 to 1.3 mm. The lateral margins of the

basal sclerite of the male subgenital plate vary in outline from a simple curve (Fig. 13) to a broken, irregular condition. No other noticeable variation has been seen in the paratyptic series.

Type locality.—Audubon Park, New Orleans, La.

Type.—U. S. N. M. No. 53218.

Holotype.—Short-winged male collected at the type locality by T. E. Snyder about October 5, 1938.

Allotype.—Short-winged female with same data as the holotype.

Paratypes.—Nine nymphs, 130 short-winged females, 16 long-winged females, and 18 males with same data as the holotype; 1 nymph, 115 short-winged females, 4 long-winged females, and 1 male taken at the type locality September 28, 1938; 9 short-winged females, 2 long-winged females, and 2 males taken by T. E. Snyder at the type locality August 22, 1938. Of the above paratypes, 10 short-winged females, 2 long-winged females, and 2 males are deposited in the Museum of Comparative Zoology, Cambridge, Mass. With the exception of a few slide-mounted specimens treated with potassium hydroxide, and potassium hydroxide plus stain, all the material is preserved in alcohol.

The previously described species most likely to be confused with *nomas* is *brasilianus*. The latter differs from *nomas* in the larger number of setae on the gonapophyses of the female and in the proportions of the antennal segments. The basal emargination of the anterior margin of the subgenital plate, the division of each gonapophysis into a sclerotized and an unsclerotized portion, and the presence of a large bristle on the median margin of each gonapophysis are conspicuous features of *nomas*. On the basis of Enderlein's figures of *brasilianus*, that species lacks these characters.

Archipsocus panama, n. sp.

Fig. 15

The most noticeable difference between *panama* and *nomas* is found in the male genitalia (Figs. 13, 15). Other important differences in *panama* are smaller size and proportionally longer antennae as compared to other body structures. Unfortunately, the male of *brasilianus* has not been described, but, on the basis of Enderlein's measurements, this is a larger species than *panama*; the description of the female differs from that of *panama* as from that of *nomas*.

In color *panama* is slightly lighter than *nomas*. The following description is abbreviated because of the great similarity, except as noted, to *nomas*:

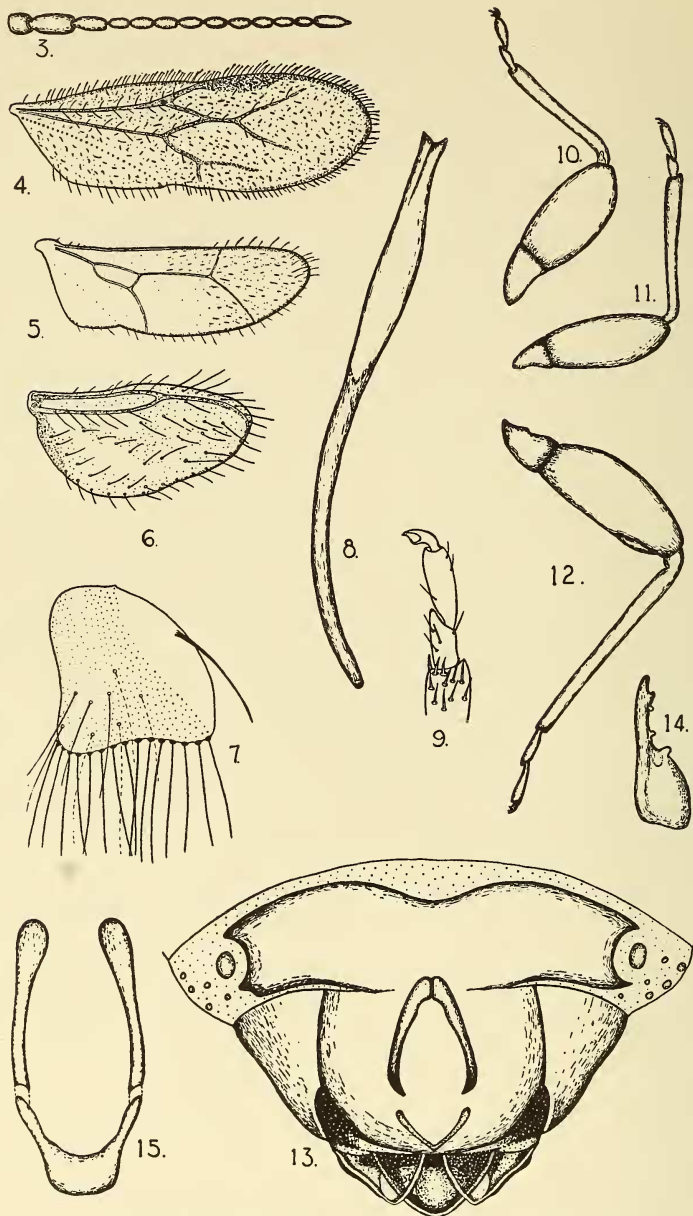
Short-winged female.—General form as in *nomas*. Lacinia with apical fork slightly more acute than in *nomas*. Length of antennal segments 1–13 in the following ratio: 1:1.6:1.4:1:1.1:1.1:0.8:1:0.7:0.9:0.7:1:1.3. Setae on abdomen little developed, less noticeable than in *nomas*. Gonapophysis of genitalia with curved bristle near medial margin less strongly sclerotized than in *nomas*.

Measurements: Length of body 1.43 mm, of antenna 0.57 mm, of wing 0.19 mm, of hind tibia 0.33 mm; width of head 0.37 mm.

Long-winged female.—Differing from short-winged female only in same way as *nomas*. Wings as in *nomas*.

Measurements: Length of antenna 0.61 mm, of front wing 1.07 mm, of hind wing 0.93 mm, of hind tibia 0.36 mm; other measurements as in short-winged female.

Short-winged male.—Differing from female as in *nomas*. Phallic armament (Fig. 15) horseshoe-shaped; anterior ends of lateral arms expanded and flattened, but not united; separation between lateral arms and posterior



Figs. 3-14.—*Archipsocus nomas*, new species: 3, Short-winged female, left antenna; 4, long-winged female, right front wing; 5, same, right hind wing; 6, short-winged female, right front wing; 7, same, right gonapophysis, ventral view; 8, same, right lacinia; 9, same, tarsus and apex of tibia of middle leg, side view; 10, same, front leg; 11, same, middle leg; 12, same, hind leg; 13, short-winged male, apex of abdomen, ventral view; 14, short-winged female, laterocervical sclerite.

Fig. 15.—*Archipsocus panama*, new species: Short-winged male, ventral view of genitalia, anterior portion uppermost.

All drawings made by the author from paratypes except that of *panama* (Fig. 15), which is from the holotype.

portion indicated by weakened sclerotization, but not entirely separated as in *nomas*; apex of posterior portion broad and platelike, unlike *nomas* (Fig. 13).

Measurements: Length of body 1.05 mm, of antenna 0.53 mm, of wing 0.14 mm, of hind tibia 0.31 mm; width of head 0.32 mm.

Nymphs.—There are three nymphs, apparently females, in the instar immediately preceding maturity. The three specimens are of uniform size, 1.2 mm long, and very pale except for the black compound eyes. The wings are well developed and extend one-half the length of the abdomen.

Variation.—As the measurements indicate, the antennae and hind tibiae of the long-winged female appear to be proportionately longer than those of the short-winged female. Since only two of the latter have been studied, the differences may represent normal variation.

Type locality.—Barro Colorado Island, Canal Zone, Panama.

Type.—U. S. N. M. No. 53375.

Holotype.—Short-winged male collected at the type locality, March 24, 1939, by James Zetek.

Allotype.—Long-winged female with same data as the holotype.

Paratypes.—One short-winged male, three short-winged females, 17 long-winged females and three nymphs with same data as the holotype. Six paratypes are mounted on slides; the remaining material is in alcohol.

HABITS OF ARCHIPSOCUS

Dr. Snyder has kindly furnished the following notes concerning *Archipsocus nomas*:

"Early in July and August 1934 the extensive webs of this psocid attracted considerable attention in the parks and streets of New Orleans, and we received many inquiries with regard to it. The entire trunks of large live oak and hackberry trees were covered by tough webs, and this included some of the larger branches 20 or 30 feet above ground. Apparently the psocids were feeding on lichens which grow luxuriantly on the moist tree trunks in this damp climate.

"It was interesting to note how these extensive webs began. They first appeared as small islands on the trunks of trees, which islands of web gradually coalesced until the whole surface of the trunk completely around the tree was covered.

"The superintendents of various city parks and the Federal cemetery requested information as to how to control these insects which were making such unsightly webs on the trees. We recommended that the larger branches and trunks of the trees be scrubbed with oil emulsions. By the use of ladders and long-handled brushes, these control measures were adopted by the various city parks. Similar webs were found on shade trees along the nearby Gulf coast of Mississippi, and we received several calls from this region as to how to control the insects making the webs.

"No further webbing was observed until September 1937, when the same conditions as in 1934 prevailed. It is quite possible that the insect was present in small numbers during the interval, but if so it was not in sufficient

numbers to be noticeable. In August 1938 this psocid again became so abundant that its webs became noticeable. Toward the end of September 1938 the insects became less numerous under the webs, the webs had become broken, and Argentine ants were carrying away quite a few of the insects."

The specimens of *Archipsocus panama* were associated with scale insects on twigs of "sigua" (either *Nectandra globosa* or *Ocotea cernua*, identification uncertain), one of the laurel family. More detailed information is lacking.

It is evident that the web-spinning habit of *nomas* closely parallels that of other species of *Archipsocus*. Enderlein (1903a) quotes a correspondent, Ludwig Biró, at length regarding the habits of *recens* at Singapore. Webs, about 15 to 30 centimeters broad and up to 6 to 8 meters long, were observed on tree trunks, and colonies of the psocids lived beneath the web, feeding mainly on algae, lichens, and other plants occurring on the bark enclosed by the web. Green (1912) has discussed *Archipsocus* webs found covering in profusion an orange tree in the Royal Botanic Gardens at Colombo, Ceylon. Pearman (1936b) states that the species reported by Green was *recens*. According to Green, the web serves mainly for protection, though he has observed an hemipteron and a thrips attacking the psocids. The silk comes from the mouth, and as the insects wander around, with no apparent design, a tangle of threads results. Enderlein (1912) discusses the webs of *recens* in detail, as described by a correspondent in Java. On citrus bushes and other plants the webs are frequent and extensive. Judged from photographs, they are similar to those of the eastern tent caterpillar (*Malacosoma americana* (F.)) in the United States. They envelop small branches, and hundreds of the psocids, mostly short-winged females, live beneath the webs. Protection from the attacks of ants was considered an important function of the web. When a web was partially removed, passing ants fell upon the helpless psocids at once.

Enderlein (1906) says that *brasilianus* has been collected from webs spun in the corners of the walls on a veranda of a house at Pará, Brazil. The species *textor*, *fernandi*, and *biguttatus* are web spinners (see Enderlein, 1911b; Pearman, 1934, 1936b), and *fernandi* is said to spin webs on the under surfaces of decaying leaves on the ground.

It is well known that many psocids cover their eggs with a thin, transparent layer of silk. Borgmeier (1928) has reviewed the principal literature of web-spinning psocids and described in detail the webs of *Epipsocus borgmeieri* R. Karny.

Two species of *Archipsocus*, *fernandi* and *biguttatus*, are of special

interest since they are viviparous; according to Pearman (1936b) they are the only viviparous psocids known, and the females lack gonapophyses. Fernando (1934) has studied the embryology of *fernandi*.

NOMENCLATORIAL NOTES ON CORRODENTIA

Almost since the time of Linnaeus there has been a confused state of the nomenclature centering about two common and widespread species of book-lice, *Trogium pulsatorium* (L.) and *Liposcelis divinatorius* (Müll.). This confusion has had a bearing upon the nomenclature of certain psocids which are members of families other than the Trogiidae, as for instance the genus *Lachesilla* Westwood. For some years the name *Troctes divinatorius* (Müll.) has been employed by the Bureau of Entomology and Plant Quarantine, and as the name *Troctes* apparently can no longer be held valid it seems worth while to review in detail the facts concerned in the confusion. The information below is arranged chronologically under the genera involved.

Genus *Trogium* Illiger, 1798

- 1758 (p. 610), Linnaeus described *Termes pulsatorium*.
1761 (p. 474), Linnaeus treated *Termes pulsatorium*, with a reference to the work of 1758.
1775 (p. 311), Fabricius treated *Hemerobius pulsatorius*, with references to Linnaeus and other workers.
1778 (pp. 41-47, 868-869, pl. 4, figs. 1-4), Degeer described *Termes lignarium* and listed *pulsatorium* L. as an equivalent. Degeer's description applies mainly to the true *pulsatorium* L., but his figures make it evident that he had a mixed series. Of Degeer's illustrations, only fig. 1 represents *pulsatorium* L.
1781 (pp. 394-395), Fabricius treated *pulsatorius* and included a reference to "Degeer Ins. 7. 1. tab. 4. fig. 1."
1798 (p. 500), Illiger proposed *Trogium* as a new genus with one included species, *Hemerobius pulsatorius* F.
1928 (p. 179), Pearman objected to the name *Trogium*, saying that Fabricius's diagnosis of *pulsatorius* was insufficient and was followed by citations referring to both *pulsatorius* and *divinatorius*.

Conclusion.—*Trogium* is a valid genus, with *pulsatorium* L. as its type.

Discussion.—Fabricius's characterization of *pulsatorius*, though brief, certainly constitutes a description. In both publications he lists definite citations to Linnaean works. The reference in 1781 to "Degeer Ins. 7. 41. 1. tab. 4. fig. 1." is significant, for this figure depicts the true *pulsatorium* L., whereas Degeer's other figures are of certain other species. Thus Fabricius designated the particular figure which correctly represented *pulsatorium*. Under the circumstances Illiger's "*pulsatorius* Fabr." appears clearly to refer to the true Linnaean species, and a genotype of *Trogium* is considered to have been properly established.

Genus *Atropos* Leach, 1815

- 1758 (p. 610), Linnaeus described *Termes pulsatorium*.
 1778 (pp. 41-48, 868-869, pl. 4, figs. 1-4), Degeer described *Termes lignarium* and listed *Termes pulsatorium* L. as an equivalent.
 1815 (p. 139), Leach erected the genus *Atropos* with one species definitely included, *Termes lignarium* Deg. Leach considered that *Psocus fatidicus* F. was doubtfully a member of the genus *Atropos*. *Termes pulsatorium* L. and the *Psocus pulsatorius* of Fabricius, Latreille, and Coquebert were listed as equivalents of *Termes lignarium*.

Conclusion.—The type of *Atropos* is *lignarium* Deg. (a synonym of *pulsatorium* L.); accordingly, the genus is isogenotypic and synonymous with *Trogium* Illiger, 1798.

Discussion.—Degeer's description applies to true *pulsatorium* L. (judged from remarks describing the eyes and the reddish abdominal spots), and the first species cited is *Termes pulsatorium* L. Figure 1 is clearly *pulsatorium*, but the other figures and certain features presented in discussion are of both *divinatorius* and nymphs of certain winged psocids. While it is evident that Degeer possessed a mixed collection, his clear intention of basing *lignarium* on the same species as Linnaeus's *pulsatorium* and his citation of the Linnaean name fix his species as a synonym of *pulsatorium*. Thus the type of *Atropos* is the same as that of *Trogium* (see under that genus) and the former generic name falls as a synonym.

Genus *Troctes* Burmeister, 1839

- 1758 (p. 610), Linnaeus described *Termes pulsatorium* and *Termes fatidicum*.
 1776 (p. 184), Müller described *Termes divinatorium*.
 1798 (p. 500), Illiger proposed the genus *Trogium* with one included species, *Hemerobius pulsatorius* F.
 1839 (pp. 773-775), Burmeister proposed the genus *Troctes* with two included species, *Termes pulsatorium* L. and *Termes fatidicum* L.
 1840 (Syn., p. 47; text, pp. 19-20, fig. 59: 13, 16-18), Westwood proposed the genus *Lachesilla* with genotype and only species *Termes fatidicum* L.
 1866 (p. 220), Hagen listed both *pulsatorius* Burm. and *fatidicus* Burm. as synonyms of *divinatorius* Müll.
 1880a (pp. 132-134), Kolbe discussed *Troctes divinatorius* and listed both *pulsatorius* and *fatidicus* of Burmeister as synonyms. The present writer has found no genotype designation in Kolbe's paper.
 1905 (pp. 36-38), Enderlein selected *divinatorius* Müll., with *fatidicus* Burm. a synonym, as type of *Troctes* Burm. Enderlein considered that Burmeister applied the name *fatidicus* L. to specimens of *divinatorius* Müll. He accepted Burmeister's identification of *pulsatorius* L. as correct.
 1911a (pp. 353-354), Enderlein said (apparently incorrectly) that Kolbe, 1880a, designated *divinatorius* as type of *Troctes*.

Conclusion.—No valid genotype of *Troctes* Burmeister, 1839, appears to have been yet designated, and the present writer hereby selects *Termes pulsatorium* L., 1758, as genotype. *Troctes* then falls as a synonym of *Trogium* Illiger, 1798, because of identical genotypes.

Discussion.—Some workers may feel that Westwood (1840) fixed the

genotype of *Troctes*, by elimination, as *pulsatorius* L. This interpretation, if correct, would effect the same result as above, but the interpretation appears questionable. Opinion 6 of the International Commission on Zoological Nomenclature says, "When a later author divides the genus A, species Ab and Ac, leaving A, only species Ab, and genus C, monotypic with species Cc, the second author is to be construed as having fixed the type of genus A." For the present case to be entirely comparable to the hypothetical case of Opinion 6, Westwood should have indicated that he knew of the description of the genus *Troctes*. Because of this departure from the hypothetical case, and the fact that the Commission has three times rejected a proposal to raise type designation by "Elimination" (Article 30k) (see Stiles, 1929) from the status of a *recommendation* to that of a *rule*, the writer does not consider that Westwood fixed a type of *Troctes*.

The designation of *divinatorius* Müll. as genotype of *Troctes* by Enderlein (1905) is not acceptable because *divinatorius* was not one of the originally included species (see Article 30e). Had Enderlein listed *fatidicus* L., 1758, instead of *fatidicus* Burm., 1839, as a synonym the case might be altered, but it is evident that Enderlein included in the synonymy only Burmeister's misidentification of *fatidicus* L.

The writer's selection of *pulsatorius* L. as genotype may meet with objection on the ground that Burmeister misidentified the material referred to *pulsatorius*. Burmeister states, under *pulsatorius*, "Man findet Individuen mit sehr dicken Hinterschenkeln, welche gut springen, und andere ohne so starke Schenkel . . .," and later, under *fatidicus*, "Bei den von mir untersuchten Individuen mit verdickten Hinterschenkeln waren die Augen schwarz, daher die Definition von *T. fatidicus* besser auf diese passen wurde." From these statements it appears that Burmeister considered the thick-legged individuals with black eyes (which probably were *divinatorius*) to represent *fatidicus*, and the remaining individuals were assigned to *pulsatorius*. Opinion 65 of the International Commission on Zoological Nomenclature states, "If an author designates a certain species as genotype, it is to be assumed that his determination of the species is correct; if a case presents itself in which it appears that an author based his genus upon certain definite specimens, rather than upon a species, it would be well to submit the case, with full details, to the Commission. At the present moment, it is difficult to lay down a general rule." Burmeister's case is not entirely comparable to the one represented by Opinion 65, since he did not designate a genotype, but the writer infers that misidentifications cannot be assumed unless there is strong evidence of a name having been based upon wrongly identified specimens. In the present case, there is no proof that true *pulsatorius* L. was not included in the series assigned to that name by Burmeister, and specimens of *divinatorius* apparently were referred to *fatidicus*. The bibliographic reference to "*Termes puls.* Linn. Fn. succ. 1937" is the first citation listed and the writer considers Burmeister to have made *pulsatorius* available for genotype designation.

Genus *Lachesilla* Westwood, 1840

- 1758 (p. 610), Linnaeus described *Termes fatidicum*.
 1840 (Syn., p. 47; text, pp. 19–20, fig. 59: 13, 16–18), Westwood proposed the genus *Lachesilla* with genotype *T. fatidicum* L. by monotypy.
 1866 (p. 202), Hagen suggested that Linnaeus's descriptive expression "Simile praecedenti, sed duplo majus," when comparing *fatidicum* to *pulsatorium*, was in error and that *fatidicum* L. really represented *divinatorium* Müller, 1776.
 1867 (p. 196), McLachlan stated that he believed Westwood's specimens were a form of *Lachesilla pedicularius*.
 1880a (pp. 118–120), Kolbe proposed the subgenus *Pterodela*, including *Hemerobius pedicularius* L. and *Caecilius quercus*, n. sp.
 1883 (p. 315), Hagen referred *fatidicum* L. to the genus *Hyperetes*.
 1884 (pp. 84–87), Kolbe doubted that *fatidicum* L. belonged to *Hyperetes* and emphasized the fact that he had immature specimens of *Pterodela* (equivalent of *Lachesilla*), which fitted the original description of *fatidicum* and which were found between dried plants, the source of Linnaeus's material.
 1933 (p. 81), Pearman stated that he preferred to use the generic name *Pterodela* Kolbe, "since Westwood's generic diagnosis is erroneous and misleading, and his type specimens are in part defective and in part aberrant."
 1935 (p. 106) Badonnel discussed the biology of *Lachesilla pedicularia* (L.), and mentioned the variety *fatidica* L. of which the female is totally apterous.

Conclusion.—*Lachesilla* is a valid genus, with *Termes fatidicum* Linnaeus its type.

Discussion.—That Linnaeus's expression, "Simile praecedenti, sed duplo majus" was not an error is indicated by its repetition (Linnaeus, 1761, p. 475) and by reference to the figures of Frisch (1734, Tom. 11, Tab. 10) cited by Linnaeus. The latter figures are not characteristic of *divinatorius*. Though Frisch's work is pre-Linnaean, it is of value in giving an understanding of Linnaeus's concept of the species. The fact remains that Westwood named his genotype which has been associated with the original Linnaean species; for this reason *Lachesilla* is valid. *Pterodela* Kolbe (genotype, *Hemerobius pedicularius* L.) is a synonym of *Lachesilla* (genotype, *Termes fatidicum* L.) because the genotypes are conspecific.

Genus *Clothilla* Westwood, 1841

- 1798 (p. 500), Illiger proposed the genus *Trogium* with one included species, *Hemerobius pulsatorius* F.
 1841 (p. 480), Westwood described a new genus and species, *Clothilla studiosa*, without literature citations or references to other species.
 1865 (p. 122, 124), Hagen examined the type of *studiosa* and indicated its identity with "the true *Termes pulsatorium* of Linnaeus, and *T. lignorum* of DeGeer."

Conclusion.—*Clothilla* is a synonym of *Trogium*, through synonymy of the genotypes.

Genus *Liposcelis* Motschulsky, 1853

1776 (p. 184), Müller described *Termes divinatorium*.

1853 (pp. 19–20), Motschulsky described *Liposcelis brunneus* in such a way that it is clearly congeneric with *divinatorium* Müller. Motschulsky also proposed the name *Liposcelis museorum* for a species to which he referred only as follows: "N'ayant pu trouver le nom et la description du soit-disant Psoque des boites à insectes, je crois pouvoir le signaler sous celui de *Liposcelis museorum*, vû que ce n'est pas dutout un Psoque."

1905 (p. 38), Enderlein listed both *brunneus* and *museorum* as synonyms of *Troctes divinatorius* (Müll.).

1911a (p. 353), Enderlein listed *museorum* as a synonym of *divinatorius* and indicated *museorum* as type of *Liposcelis*, with the result that *divinatorius* was considered the type by him. The species *brunneus* was considered valid, with *silvarum* Kolbe, 1888, a synonym.

1927 (p. 12), Enderlein treated *silvarum* as a valid species, without mention of *brunneus*.

Conclusion.—The species *museorum* was not sufficiently characterized by Motschulsky to constitute description, and *brunneus* is genotype of *Liposcelis*. The identity of *brunneus* is uncertain, but it is congeneric with *divinatorius*, so that *divinatorius* may be properly included in the genus *Liposcelis*.

NOMENCLATURE OF HIGHER CATEGORIES

For some time the family name Atropidae has been in rather general use. Since *Atropos* is invalid, the name must be changed. Trogiidae is available, and, following Enderlein (1919, p. 30), it is now being adopted.

During recent years many workers have used Psocoptera or Copeognatha as the ordinal name of the psocids, rather than Corrodentia. Corrodentia was used by Burmeister (1838, 1839) as a tribal name including termites, embiids, coniopterygids, and psocids. Brauer (1885), in proposing the classification that is generally accepted as the forerunner of all modern systems, used Corrodentia as an order for termites, psocids, and biting lice. In 1895 Comstock and Comstock restricted the order Corrodentia to psocids alone. Enderlein (1903b) proposed the name Copeognatha, and Shipley (1904) proposed Psocoptera for the psocids. The latter suggested that the suffix "ptera" be added to each ordinal name not already bearing it for the sake of uniformity. The ordinal names which he proposed for apterygotan orders and wingless pterygotan orders have not been generally accepted, but Psocoptera, Embioptera, and Ephemeroptera have met with considerable acceptance. Paraneuroptera, for Odonata, has not appeared in general use.

Imms (1924) and Wilson and Doner (1937) have reviewed the

different ordinal classifications used by various writers. Chapman (1930), Comstock (1930), Handlirsch (1930), and Brues and Melander (1932) are among those using Corrodentia in the ordinal sense. On the basis of priority this is preferred to either Copeognatha or Psocoptera. Inasmuch as Shipley's system has not been followed in entirety, it does not seem important to use Psocoptera for the sake of uniformity. It may be argued that the names rejected, except for Odonata, are those of wingless orders, so that "ptera" does not properly apply to them. However, Odonata is still in general use, and, as Mickel (1934) has shown, the name is based upon the toothed maxillae of dragonflies. The name Corrodentia is derived from a Latin name meaning "gnawing," which is characteristic of the often injurious feeding habits of psocids. Because of priority, general usage, and fitting derivation it seems best to retain Corrodentia in preference to other names.

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